

Name _____

Date _____

Complete the following chart for regular polygons.

	#1	#2	#3	#4	#5	#6	#7	#8
Each interior \angle	150°	120°	156°	160°				
Each exterior \angle					10°	6°	8°	3.75°
Interior \angle sum								
Exterior \angle sum								
N # of sides								

Find the sum of the measures of the interior angles of each convex polygon.

1. 10-gon

2. 16-gon

3. 30-gon

4. 8-gon

5. 12-gon

6. $3x$ -gon

The measure of an interior angle of a regular polygon is given. Find the number of sides in each polygon.

7. 150

8. 160

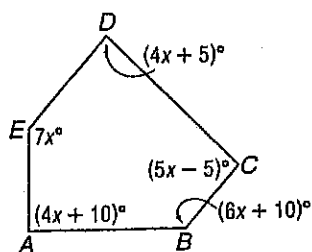
9. 175

10. 165

11. 168.75

12. 135

13. Find x .



8-1

Skills Practice

Angles of Polygons

Find the sum of the measures of the interior angles of each convex polygon.

1. nonagon

2. heptagon

3. decagon

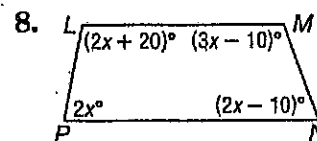
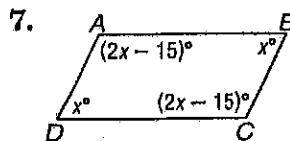
The measure of an interior angle of a regular polygon is given. Find the number of sides in each polygon.

4. 108

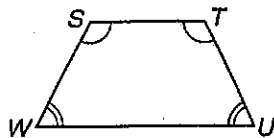
5. 120

6. 150

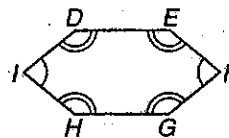
Find the measure of each interior angle using the given information.



9. quadrilateral $STUW$ with $\angle S \cong \angle T$,
 $\angle U \cong \angle W$, $m\angle S = 2x + 16$,
 $m\angle U = x + 14$



10. hexagon $DEFGHI$ with
 $\angle D \cong \angle E \cong \angle G \cong \angle H$, $\angle F \cong \angle I$,
 $m\angle D = 7x$, $m\angle F = 4x$



Find the measures of an interior angle and an exterior angle for each regular polygon.

11. quadrilateral

12. pentagon

13. dodecagon

Find the measures of an interior angle and an exterior angle given the number of sides of each regular polygon. Round to the nearest tenth if necessary.

14. 8

15. 9

16. 13